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Big Sky Clearwater

Published jointly by Montana Water Quality Division, Montana Water Environment Association, and Montana Section American Water Works Association

FALL 1994

Pollution Prevention

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DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
WATER QUALITY DIVISION

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This publication welcomes articles of interest and random pieces of information regarding anything to do with water. If you have ideas or information you would like to share with other people involved in the water and wastewater field, please contact the Water Quality Division.

An article may consist of your thoughts and ideas about something you may have experienced, perhaps such information could help someone else in their day-to-day work. It could also be a technical article developed from research information and library resource material. If it has to do with water and you think it may be of interest, please send it to us (Attn: Editor) or give us a call at (406) 444-2406.

If you do not wish to continue receiving this publication, please send us your mailing label so we may remove it from our mailing list...thanks.

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Cover: This issue of the Big Sky Clearwater is devoted to Pollution Prevention because it is such an important and integral part of all water quality protection efforts. Please institute some of these principles in your home, workplace and community. Thanks, Bill Bahr-Editor. Cover sketch reproduced with permission of U.S. EPA.

The *Big Sky Clearwater* is for water and wastewater operators across Montana. It is published twice a year by the Water Quality Division, of the Montana Department of Health and Environmental Sciences, in cooperation with the Montana Section of the American Water Works Association and the Montana Water Environment Association.

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Edited By

Bill Bahr, WQD *Gerri Reeves, WQD*

REFLECTIONS IN THE RIPPLES

Big Sky Clearwater, Fall Edition 1994 Editor, Bill Bahr

NEXT YEAR'S JOINT CONFERENCE

A trend that I see continuing for the foreseeable future is the type of training sessions at the Joint Annual Conference of the Montana Water Environment Association and the Montana Section of the American Water Works Association. The past few years have seen a change to presentations on wide-ranging environmental topics by a diverse group of speakers. There seems to be less and less typical operator training at the conference.

This may account for the decline in the numbers of operators at the conference and an increase in public works officials and private engineering consultants. While you may dispute the numbers or the merit in such a change, I sense that it is a change that will continue to happen as we reach out to students from engineering programs to present research papers, and as we seek out the new technologies that are developing in response to water quality issues throughout the state.

I would like to encourage operators to take advantage of the conference and expand their horizons, and to take an active role in these two very worthwhile organizations. The lifeblood of both the MWEA and MSAWWA is still the professional operators and municipal management staffs from throughout Montana. Somehow, as president of the MWEA, I would like to see an expanded role for operators in the organizations and at the annual conference. One of the goals I have is to increase the membership in the Professional Wastewater Operators' Division of MWEA, directed by Wayne Robbins of Great Falls.

Please contact me at 444-5337 to discuss ways in which you can become more involved in either MWEA or MSAWWA. While the conferences have become more focused on broader subjects such as watershed management and pollution prevention, operation of water and wastewater treatment facilities are key topics that MWEA will continue to offer. Please consider joining us as we strive to maintain and improve Montana's waters and provide high-quality drinking water for Montana's citizens.

TRAINING ADULTS

I have been involved in adult training for several years and some ideas come to mind about how this training is best presented. I like to enter the training rooms with a smile that means I'm glad that we are all there together for a day of exploration and learning. Much of what will be learned will probably come from the experiences of the folks attending, so I want to be sure to create an atmosphere both welcoming and comfortable for all those there. Including myself. I'd hate to be part of an unhappy group of people. You should see the people I work with. (Just kidding.)

I like open forums so anybody who wants to can participate; most comments freely shared will be given full consideration within the structure of the class. There truly are no dumb questions or comments. I have to say this, since many of these type of comments and questions are offered by me.

I like to use overhead material, but primarily only as a guide through the main points of the presentation. Overheads can be used in a room full of light; I can write on them, if I wish; the class determines the how fast to move through the material, so understanding is easier to check; handouts can be used, since it is light, and they can parallel the overheads, and I can easily make changes and improve the overheads to keep them current and readable to the entire room. I feel like the class and I control the learning process better.

The opening of a seminar is critical. It feels like everyone is more involved if we introduce ourselves, and talk about learning expectations. I sometimes use a flip chart to scribble down concerns at the start of the class, and then check from time to time to see if all the topics have been addressed.

I am guilty of following the times on the agenda too closely, and not calling for breaks at times when the group could really use one. We try to hold training in comfortable rooms, with at least some climate control.

Most importantly, I try to tell the classes the most important things early in the day; emphasize those important concepts as we reach them throughout the day, and reiterate, repeat those same points in closing. I truly believe, especially when it comes to safety, that stuff we can correctly recall from memory, is more effective in saving lives than trying to look up stuff filed away at a time when we need to respond quickly and under pressure.

SAFETY

Please work safely. I wish I never had to give another safety class because everyone of you was a safer worker than I could train you to be. Another young person has died in a senseless accident. Who will be next? I believe that there never has to be another death or accident (excluding Acts of God) in plants.

MWEA strongly supports safety programs and extremely active in-house plant safety training efforts. This past conference, we awarded our first Burke Safety Award. The City of Great Falls Wastewater Treatment Plant, operated by Wheelabrator EOS, received the inaugural Montana award. There was stiff competition from the City of Missoula, Wastewater Treatment Division. Both programs include hours of in-house training, program development, on-site practice training events to evaluate effectiveness, and have sterling no-lost-time accident records. If you are active and would like your plant considered for this award, you will have the opportunity in only two years to get the next one.

LOGO CONTEST WINNER

Shelley Bisom Hunter was the winner of the MWEA logo contest to come up with a logo more representative of our Montana culture and our recent name change. She incorporated the national WEF cascade into a double image giving us mountains and the water cascade. We then modified it into the logo you see inside the front cover. I hope you like it. You may purchase a pin with the logo on it by contacting me at 444-5337.

AWARDS

Lee Leivo, Manager of the Bigfork Water and Sewer District, was awarded the William D. Hatfield award for 1994. Lee has served on the Operator Certification Council for many years. He has always supported the MWEA and their safety and training efforts. I think this year's conference is the first one that Lee has missed in many years. He stayed at home to tend to the plant, since his operator, Eric Johnson, was laid up with a broken ankle at the time. Now that is dedication. Lee insisted that credit be given to Eric and the District's Board of Directors. He says, "When you surround yourself with good people, you look good."

SISTER PLANTS?

When I was an operator at the Great Falls wastewater treatment plant, I had always heard that the Billings plant was a sister plant. They were in that they both once had heat treatment systems for biosolids stabilization and a similar conventional activated sludge secondary treatment system. The truth is, however, that now the two plants are significantly different. Great Falls has made quite a number of modifications and improvements through the years, but essentially, it is the same plant that was built in 1974. An excellent maintenance program along with an efficient operation has allowed Great Falls to continue with the original treatment design.

Billings, on the other hand, has instituted several changes in their basic design. The heat treatment for biosolids stabilization has long been replaced with anaerobic digestion and energy recovery from the generated methane gasses. This required a changed to belt filter presses, as opposed to vacuum filtration. Much of the Billings plant has been automated with computer-assisted data entry by operators and computer controlled process changes throughout the plant.

Maybe most significantly, however, are the current upgrades at the plant. The aeration basins have been redesigned to create anoxic zones and floc-forming cells within the basins for filament control. The secondary clarifiers are being upgraded to remove the dead space in the corners of the rectangular design, which allowed rising solids to escape over the weirs. Finally, the city is working with Montana Power Company to change the energy-intensive mixer aeration system to a fine-bubble diffuser set-up. I really don't think we can call them sister plants anymore.

OTHER NEWS

Just thought you should know that Paul Torok, General Manager of the Seeley Lake Water District, has been appointed to a newly created Small Towns Task Force by EPA Administrator, Carol Browner. The task force will advise Browner on issues affecting small communities in the United States. Congratulations, Paul. I am sure he would like to hear from any of you with concerns about environmental impacts for small towns, so call him at 677-2559 (office) or 677-2204 (home).

Jim Melstad, Drinking Water and Subdivision Section Head, Water Quality Division, Department of Health and Environmental Sciences, and John Campbell, Public Works Director for the City of Polson, travelled to Honduras earlier this year to assist communities there with building and maintaining clean drinking water supply systems. The group, called Water For People, is sponsored by MSAWWA, and is active in other nations with poverty conditions and that lack safe drinking water systems. Jim will be showing his slides from that trip at the Annual Fall Water School in Bozeman, Sept. 26-29. Plan to attend and become involved.

ON THE HORIZON

The strength of wastewater is measured by a Biochemical Oxygen Demand (BOD) test developed in 1870. The test uses a variety of dilutions to establish a range of strengths, upon which a BOD value is assigned. Other modifications have included seeding some samples to get representative BOD numbers. The BOD test has been subject to any number of criticisms over the years. For example, it takes five days for a result, when most activated sludge plants operate a process based on hours of sludge age. Well, there is a new test on the horizon suggested as a replacement for the BOD test. The procedure, called Headspace Biochemical Oxygen Demand (HBOD) test, uses non-diluted wastewater samples, can be conducted over a shorter (24 hour to 36 hour) period and provide an accurate prediction of the five-day value, and the experimental conditions more accurately represent the conditions in the wastewater treatment bioreactors. Watch for the HBOD test coming you way soon in all fine wastewater testing laboratories.

FROM BUREAUS TO DIVISIONS

by Steve Pilcher, Acting Administrator
Water Quality Division

The Montana Department of Health and Environmental Sciences (MDHES) has recently undergone several organizational changes. The most significant change, and the one that may have the greatest impact on **BIG SKY CLEARWATER** readers, is the reorganization of the Environmental Sciences Division into four new divisions. The Environmental Sciences Division was created in the early 1970s in recognition of the growing public interest in environmental protection. Since that time, many environmental laws and rules have been enacted, new programs initiated, and additional staff hired to see that they are carried out. As a result, the Environmental Sciences Division grew from an original staff of 25 or so professionals to a current staffing level of approximately 240.

In order to better focus attention on the individual environmental programs, MDHES has created the following divisions:

AIR QUALITY DIVISION

This division includes all functions previously handled by the Air Quality Bureau and those carried out by the Occupational and Radiological Health Bureau. The new division is located at 836 Front Street. The acting division administrator is Jeff Chaffee.

WASTE MANAGEMENT DIVISION

This division includes many of the programs and functions of the Solid and Hazardous Waste Management Bureau, including Solid Waste Management, Hazardous Waste Management, Motor Vehicle Recycling, and the Underground Storage Tank permit program. This division recently moved to offices at 2209 Phoenix Avenue, just off the old Airport Road. The acting division administrator is Roger Thorvilson.

ENVIRONMENTAL REMEDIATION DIVISION

This division consolidates the agency's cleanup responsibilities into one organizational unit. Included are both the state and federal Superfund programs and the Leaking Underground Storage Tank cleanup program. They are also located at 2209 Phoenix Avenue. The acting division administrator is John Geach.

WATER QUALITY DIVISION

This division includes all functions previously handled by the Water Quality Bureau. The new division remains in the Cogswell Building. The acting division administrator is Steve Pilcher.

Once permanent division administrators are selected, there may be some additional organizational changes within the divisions, and we will share those changes with you as they are implemented. In the meantime things will continue much as they have in the past. You can expect the same quality professional support and assistance, and where necessary, the same regulatory encouragement you have always enjoyed.

MUNICIPAL WATER POLLUTION PREVENTION

What is it and how will it impact our plant?

by Pat Burke, WQD

In 1990, Congress passed the *Pollution Prevention Act*, a revolutionary piece of legislation which will change the manner in which we view wastewater treatment and other forms of environmental protection for years to come. The Pollution Prevention Act states that:

> "...pollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner, whenever feasible; pollution that cannot be prevented or recycled should be treated in an environmentally safe manner...disposal or other release into the environment should be employed only as a last resort..."

The Pollution Prevention Act shifts our approach to pollution control activities from end of pipe (or stack) solutions, toward the reduction and elimination of wastes at their source.

To promote pollution prevention (P2) in the wastewater treatment industry, EPA has encouraged states to develop Municipal Water Pollution Prevention (MWPP) programs. MWPP seeks to achieve the following goals:

- Prevention of NPDES Permit violations and maintenance of a high rate of permit compliance.
- Maximization of the design life of POTWs through efficient and effective operation and maintenance, and control of influent flows and loadings.
- Assurance of timely planning and financing for future treatment needs, before permit violations occur.
- Maximization of beneficial use of effluent and biosolids produced by POTWs.

In Montana, the Water Quality Division has taken a multi-faceted approach to MWPP, with several main areas of focus. As an initial step, we have encouraged communities which are facing treatment plant expansions to undertake water conservation, to reduce the overall size and cost of the expansion projects. We hope to have two pilot water conservation projects underway within the next year, along with a variety of educational materials promoting water conservation and wastewater minimization.

A major emphasis of Montana's MWPP program is the POTW Self-Assessment, a voluntary self-audit and assessment procedure for municipal wastewater treatment plants. The POTW Self-Assessment is intended to be completed by the POTW's operations staff, and evaluates a facility based on a variety of pollution prevention indicators, including MPDES permit compliance; facility age and condition; current and projected influent loadings versus design capacity; collection system infiltration/inflow; pollution prevention opportunities; reclamation/reuse; energy conservation; operation and maintenance; and utility finances, staffing, and management. The POTW Self-Assessment uses a series of tables to evaluate the facility, and assigns points to items which are undesirable from the standpoint of pollution prevention. The goal is to manage and operate your plant so as to achieve the lowest possible score.

The POTW Self-Assessment is intended to help communities plan ahead for wastewater needs, while maximizing pollution prevention opportunities and wastewater and biosolids reclamation. Based on the results of the self-assessment evaluation, communities are asked to develop and adopt an action plan to correct deficiencies, and enhance pollution prevention. Facilities with significant needs are asked to repeat the POTW Self-Assessment on a one-to-two year interval.

While the POTW Self-Assessment is voluntary, the Water Quality Division is strongly encouraging communities to participate in the program. Incentives under consideration include: Continuing Education Units for plant personnel who prepare the assessment, as well as additional State Revolving Fund Loan eligibility points for participating communities. It should be noted that the current MPDES permit structure already offers an excellent incentive for pollution prevention, since permit fees are discounted for facilities which consistently discharge effluent below permitted levels, and operate without permit violations.

A draft version of the POTW Self-Assessment for mechanical plants is available from the Water Quality Division. A self-assessment procedure for lagoon facilities is also being developed. We plan to give training on the self-assessment process at the fall water school in Bozeman, so come prepared with your plant performance data and design criteria information. We will distribute additional information on the self-assessment program as the water school approaches.

For additional information please contact Pat Burke of the Water Quality Division at 444-7343.

Pollution Prevention - Right From the Start!

by Karen Sanchez

Montana Pollution Prevention Program Coordinator
MSU Extension Service

WHAT IS POLLUTION PREVENTION?

Have you heard the term "pollution prevention"? If not, you will be sure to soon. Pollution prevention means:

- Reducing solid waste - hazardous and non-hazardous.
- Reducing air emissions - toxic and non-toxic.
- Reducing discharge of pollutants into wastewater and storm water.
- Conserving energy and water.

Pollution prevention means upstream prevention rather than the traditional "end of pipe" pollution control or treatment. Put another way, if no pollution is generated, there are no pollutants to be managed. Pollution prevention presents a number of benefits, including:

- Decreased treatment/disposal costs for wastes.
- Reduced worker safety and health risks.
- Reduced regulatory burden.
- Reduced long-term liability risks.
- Environmental protection.
- Improved public image.

POLLUTION PREVENTION FOR PUBLIC WORKS

Okay, so how does pollution prevention apply to you - the operator of a water or wastewater facility?

You can use pollution prevention techniques in your facility, in vehicle maintenance or in a pump repair for instance. Let's look at pump repair for an example. What's in that aerosol gasket remover? It could be methylene chloride - a regulated hazardous material and a carcinogen (cancer causing). What are some pollution prevention options? Here are just a few:

- Never let any chlorinated cleaners drip on the floor. Use drip trays and pans to keep any hazardous materials from reaching the floor - and potentially your drain and/or penetrating through your floor to groundwater.
- Use good purchasing procedures - buy and use one or two multi-use products, rather than the same aerosol product in various packaging purchased for different uses.
- Minimize or eliminate the use of hazardous and chlorinated products. Minimize or eliminate use of aerosol cans. Buy bulk quantities of multi-purpose non-chlorinated and non-hazardous cleaners, and refill self-pump or compressed air chargeable aerosol containers in the shop.

You can be a resource for the users of your system on how to minimize the pollutants they discharge to your sewer and treatment system. The advantages of educating your system's users include: protection against poor wastewater treatment due to toxics, protection of sludge quality and worker safety. Use your own experiences in cutting down on wastes to advise your system's users on pollution prevention methods.

GETTING STARTED

How do you get started on a pollution prevention plan in your facility? First - make sure that there is support from the top and that all workers are encouraged to come up with ideas. Second - determine what your waste streams are - for example - computer paper, cardboard, used oil, aerosol cans, discharges to water and air. Next - determine what waste(s) you will minimize first. Target the easiest one or two waste streams first so you are guaranteed a success. Then make changes. Don't be too drastic at first. Finally - evaluate how well the changes worked - what were the payoffs - financial savings, worker safety improved, etc. Then - take a look at making the next change, and so on.

POLLUTION PREVENTION IN MONTANA

The Montana Pollution Prevention Program is based at the MSU Extension Service. The program provides pollution prevention education to Montana's small businesses and agricultural operations. Services include: workshops and informational resources on pollution prevention. *All assistance is non-regulatory and confidential. Feel free to give us a call at (406) 994-3451.*

SOME POTW EDUCATIONAL RESOURCES

☐ Pollution Prevention for Automotive Repair Shops Checklist available from the Montana Pollution Prevention Program. **Call 994-3451 to get a copy.**

☐ The Montana Pollution Prevention Program also has many publications on loan: "Reducing the Waste in Wastewater", "Pollution Prevention Guidance for Local Governments", "Reducing Industrial Toxic Wastes and Discharges - The Role of POTW's", are just a few. **Call us at 994-3451 for a full listing.**

☐ A Municipal Water Pollution Prevention Self-Assessment is available from the Montana Water Quality Division. **Call 444-2406 to get a copy.**

☐ The Small Business Handbook for Managing Hazardous Wastes summarizes Montana hazardous waste regulations and lists various contacts and references. Call the Montana Waste Management Division at **444-1430 to get a copy.**

WATER CONSERVATION

Who Is Water Conservation For ?

by Rick Cottingham, WQD

Drought or a growing population, without plans for additional new water supply, can put the squeeze on water service to your customers. If your utility has no new water sources available, lacks financial resources to acquire more water, or faces source contamination, then a serious discussion about water conservation should be undertaken.

Water conservation can delay or reduce the cost of new water supply development, decrease flows to wastewater treatment plants, and reduce the operating costs to the utility. Conservation can often reduce the cost to the customer.

You must determine the need for conservation in your community before any program is put into effect. A decrease in water use can result in decreased income, which can impact your utility's operations.

When water conservation is needed, however; the right program - a program that saves water and still provides adequate income - can be designed to benefit you and your customers.

Water Shortages

Can you predict every water shortage? No! Can you prepare for most water shortages? Yes! You will probably have to plan for water shortages if:

1. You have low groundwater, reservoir levels, or streamflows due to drought conditions.
2. Your community has experienced low pressure or low water in storage tanks due to lack of available water.
3. The national weather service is predicting a lack of precipitation in your area.
4. Your community is growing and no new water resources are being developed.

Conservation As A Management Tool

Assess your current water supply conditions.

1. Can you supply the amount of water needed each day?
2. Do you have the necessary amount of emergency water (fire or main breaks) available when it's needed?
3. Are you producing adequate water without drawing down your supply beyond normal recovery levels?

Conservation can be used as a management tool - it is environmentally sound and financially responsible because it allows the need for new water supplies to be avoided or delayed.

Water Conservation Tools

Metering

1. Meters provide the best method for measuring water use.
    a. Accurately account and charge for water used.
    b. Aid in detecting and stopping water leaks faster.
2. Metered customers normally use 10 to 20 percent less water than unmetered customers.
3. Once meters are in place your utility collects income for all water used.

Retrofitting

1. Updating older plumbing is an efficient, effective, and immediate way to conserve water.
2. A retrofitting kit, consisting of water saving devices for toilets and showers, plus a toilet leak detector kit.
3. A side benefit is that it increases public awareness.

Water audits and leak detection plans

1. A water audit identifies how much water a utility really uses and receives income from, and how much water is lost.
2. An audit should be followed by a leak detection program.
    a. Leak detection helps reduce both water and revenue losses.
    b. Increases knowledge of your distribution system.
    c. Makes efficient use of existing supplies.
    d. Safeguards public health and property.
    e. Reduces legal liability.

Sample Operation Plans

Operation Plan #1 - Voluntary Conservation

When voluntary conservation is needed, public cooperation is absolutely vital and can save up to 10 percent reduction in water usage.

Recommended steps:

1. Inform the public.
2. Make sure that the water system is in good order.
    a. Locate leaks and repair them.
    b. Stock spare parts and pumps that are vital to your operation.
3. In cases of high line pressure, take steps to reduce the pressure.
4. Provide public information on water saving devices and other conservation tips by distributing flyers or bill stuffing.
5. Meet individually with major water users and impress the need for voluntary conservation.
6. Set conservation goals and notify the community regularly on achievements.
7. Consider a community contest or celebration with water conservation as the theme.

Operation Plan #2 - Mandatory Conservation

1. Implement plan #1 activities as they apply to your system.
2. Establish, by resolution, which water uses will be restricted.
    a. Include:
        1) What will be done if the rules are ignored or broken.
        2) Establish penalties and appeals procedures.
            a) First Violation - Written notice issued.
            b) Second Violation - Surcharge of 50 percent of the customers previous month's bill or a set fine.

        c) Third Violation - Customer subjected to a flow restricter or immediate cutoff of service. Reconnection would be completed only after payment of a stiff reconnection fee and the written notice that any future offenses will result in immediate shut off. Steps #1 and #2 will not be repeated.

    3) Consider the need for a moratorium on all new construction.

    4) Hold meetings to promote the plan and gain public acceptance.

Operation Plan #3 - Water Rationing

A water rationing plan can only work on metered systems. Water rationing requires that a per customer monthly water allotment (base allocation) be used. The allotment is the amount of water that can be guaranteed for delivery at each customer's residence during the conservation efforts. Regular meter readings need to be taken to determine customer compliance. Suggested action taken:

1. Implement parts of plans #1 and #2 that apply to your system.

2. Determine the procedure to set rates, penalties, and the appeals process.

3. Hold public meetings to explain the plan and gain its acceptance.

4. Hold follow-up meetings to report the success of your conservation plan.

Because small systems do not have the workforce to monitor water use, restrictions should be based on common sense approaches.

1. Neighborhood Watch to report unwise water use.

2. Have an anonymous phone system where reports can be given.

3. Establish who will handle follow-up procedures.

Other suggestions for public involvement could be:

1. A conservation hotline.

2. A conservation newsletter.

3. Publish the name of the person who saved the most.

Rate Alternatives

If conservation is a must, increased water charges for metered or flat-rate services can help get the public's attention. Conservation strategies need to include rate setting policies that reflect the idea that the increased use of water during droughts will cost more.

If your system is unmetered, a meaningful raise in the monthly or quarterly flat rate during the drought will make customers aware that water is very precious and that it should not be wasted nor taken for granted.

Be fair and reliable. When the conservation crisis has ended, lift the restrictions and let your customers know that they were instrumental in helping survive the drought conditions. The same methods used to notify them of the impending restrictions should be used to inform them of the solution.

Conservation methods can affect your utility's total income. If the conservation plan works, your income from water will be reduced unless you make an adjustment. The adjustment can be very simple. If you cut water use by 20 percent and raise your water rates by 20 percent, your income should cover your cost.

Obviously if you serve the needs of both water and wastewater, then only the water rates are adjusted to encourage water conservation. If wastewater income suffers because of the water conservation plan, then adjustments to the wastewater income may need to be looked at the following year after implementing your conservation effort.

Outside Water Use

Water washed or sprinkled into the street and sidewalks means energy and chemicals wasted at a water purification plant - plus the cost of pumping the water through miles of mains.

Experimenting with a garden hose:

> Washing a car for 20 minutes used 97 gallons with a 5/8" hose. A 3/4" hose used almost twice as much.
>
> With a pistol grip nozzle - shut off except to wet and rinse - used just 15 gallons.
>
> Watering lawns, gardens, and washing cars during the summer nearly doubles household consumption.
>
> At this time of the year when streams are starting to run low this water is not returned to the streams. Low summer streamflows put heavy stress on fish and other stream wildlife.

Conserving On Outside Water

Plant native vegetation that survives hot, dry summers with little water.

To wash the car hose it down, then shut off the hose until you're ready to rinse. Do the washing with a pail of soapy water.

For lawns and gardens:

> Water the lawn only when needed.
>
> Soak grass long enough for water to reach the roots.
>
> Water slowly, deeply, and INFREQUENTLY.
>
> Water early in the morning or just before dusk.
>
> Don't water on windy days.
>
> Mulch trees and plants to hold moisture in the soil.
>
> Adjust sprinklers to hit the area where needed.
>
> Use coarse spray sprinklers.
>
> If water is rationed give priority to trees and shrubs.

Conserving Indoor Water

Don't use the toilet as a wastebasket.

To save hot water turn off the water while soaping and shampooing.

Half fill the sink while shaving so water doesn't run continuously.

Set the hot water tank thermostat 10 degrees lower.

Insulate the hot water pipes and heater to save energy.

Low sudsing detergents require less rinsing.

Use a bowl of water or stop the sink when washing vegetables.

Keep a bottle of cold drinking water in the refrigerator.

PROPOSAL TO IRRIGATE WITH DEER LODGE WASTEWATER A GOOD EXAMPLE OF COOPERATIVE WATER PROBLEM-SOLVING

by Gary Ingman, WQB

High levels of nitrogen and phosphorus in the upper Clark Fork River have attracted considerable attention in recent years. These nutrients stimulate growth of water plants, much like fertilizer enhances the growth of crops or lawns. The result is the proliferation of attached algae whose high densities impair most beneficial uses of the river and cause violations of state water quality standards. Nutrient sources include treated municipal and industrial wastewater discharges, stormwater, diffuse runoff (or so-called nonpoint sources) from agricultural and urban areas, and natural geologic sources.

Using treated municipal wastewater for irrigation of crops is one potentially beneficial method of reducing the discharge of nutrients and other pollutants to surface waters. High levels of nitrogen and phosphorus in municipal wastewaters make treated domestic sewage an ideal natural fertilizer. Both aquatic and terrestrial resources benefit when wastewater discharges are removed from surface waters during the summer period when their influence on water uses is most pronounced and are applied to agricultural croplands. There they can replace other irrigation water supplies as well as the need for fertilizer additions. Applying this win-win scenario in the upper Clark Fork Basin is currently being evaluated under a cooperative arrangement between the City of Deer Lodge, the National Park Service Grant-Kohrs Ranch National Historic Site, the Montana Department of Health and Environmental Sciences (MDHES), and a number of private landowners.

Land-applying treated domestic wastewater from the communities of Butte, Deer Lodge and Missoula was first recommended in a 1992 nutrient management plan for the Clark Fork River developed by MDHES. This plan was later merged with similar plans for the Idaho and Washington portions of the Clark Fork-Pend Oreille Basin to become a recently approved tri-state water quality management plan. The plan identifies pollution sources throughout the basin, presents a variety of pollution control alternatives, and recommends a locally based approach to water quality problem-solving.

In May 1993, an Upper Clark Fork Basin Steering Committee sub-group heard recommendations contained in the tri-state management plan and immediately began to take action. Representatives on the subcommittee included farmers and ranchers, fisherman and recreationists, local industry, and city, county, state and federal government officials. Discussions began to evaluate irrigating with Deer Lodge's wastewater during the summer period. The proximity of a main irrigation supply ditch to the Deer Lodge wastewater treatment lagoons, the prevailing adjacent agricultural land use patterns, a relatively small volume wastewater discharge, and a seasonal shortage of irrigation water in the Deer

Lodge Valley seemed to make this facility a good candidate for land application.

It soon became apparent the adjacent Kohrs-Manning ditch might not be the best alternative for distributing effluent to local hay fields. A ditch company representative explained that lands served by the ditch contained poorly drained soils due to shallow groundwater and that irrigation return flows frequently found their way back to the river. The National Park Service then graciously offered a tract of pasture land immediately adjacent to the lagoon system as a potential site. The 100-plus acre pasture had previously been irrigated and had a hand line sprinkler irrigation system in place. In addition, two other adjacent private land owners expressed an interest in using some of the wastewater.

In cooperation with the MDHES Water Quality Bureau, the City of Deer Lodge is now evaluating the feasibility of seasonally land-applying its wastewater at these locations. A planning grant from the Bureau's Municipal Wastewater Assistance Program was matched with a 25-percent contribution from the city, and the city retained an independent engineering contractor to conduct a feasibility study.

Requirements of the contract include: 1) quantifying outflows from the lagoon system during the irrigation season; 2) characterizing the chemical and biological properties of the effluent; 3) evaluating the Grant-Kohrs Ranch and adjacent private properties for suitability as spray irrigation sites, considering soil types, organic and hydraulic loading, and cropping requirements; 4) analyzing the suitability of the current sprinkler irrigation system on the Grant-Kohrs Ranch; 5) determining what facilities or alternatives may be necessary to deliver effluent from the lagoon to the irrigation site and at what costs; 6) recommending alternatives for construction; 7) conducting an environmental assessment, including public health aspects; 8) developing a groundwater monitoring program; and, 9) assisting the city in developing draft operational agreements establishing conditions and periods of use, cost allocation, and responsibilities of parties to the agreement.

The results of the study have yielded a preliminary plan which is currently under review and comment. Assuming favorable results, a combination of funding from the city, the Water Quality Bureau, the National Park Service and private sources will put the plan into effect.

Although it is premature to predict the proposal will be environmentally and economically viable, partners in the project are optimistic and excited about prospective benefits. Land application of all of Deer Lodge's wastewater during the summertime is expected to reduce nutrient levels by 70 percent immediately downstream in the Clark Fork. This could translate into lessened algae and related water quality problems in 90 or more miles of the river. Currently marginal pastureland adjacent to the wastewater lagoon would be transformed into lush grasslands supporting additional grazing and wildlife. The City of Deer Lodge will have developed a farsighted and environmentally superior solution for wastewater disposal --- one that enhances beneficial water uses in the river while saving local ratepayers the costs of financing continuing wastewater treatment improvements.

IMPACTS OF NONDEGRADATION

by Abe Horpestad, WQD

The purpose of Montana's Water Quality Act and its nondegradation policy is to protect state waters, both ground waters and surface waters, which have higher quality than the established standards. Rules for implementing nondegradation policies were adopted by the Montana Board of Health and Environmental Sciences on July 15, 1994. The Montana Department of Health and Environmental Sciences (MDHES) has been working to protect water quality for many years without clear guidelines and parameters, resulting in lawsuits and appeals of rulings.

The 1993 legislature amended the Montana Water Quality Act to clarify the issue of nondegradation for these reasons. The nondegradation policy will protect state waters from increased degradation or worsening of water quality which is the ultimate result of increased development, population growth and the corresponding discharge of an increasing quantity of wastes into our finite water resource.

The philosophy is simple and appropriate. Simply put, it is to ensure that future generations enjoy the same quality waters we now have. It means, however, that we have to rethink our accepted practices of using waters as sewers, as places to dispose of wastes and as a vehicle to transport wastes away from us, and unfortunately, toward someone else. Not everyone can live upstream.

The state's nondegradation policy was first adopted in 1971 in the Water Quality Act. This policy, as written into the law, created internal conflicts, and was not consistently enforced for surface waters until 1982. Even then, sources of ground water degradation continued to create difficulties for consistent MDHES actions due to conflicts in the way the law was written.

The 1993 legislative amendments were written to clarify the issue of nondegradation as prescribed in the 1971 Water Quality Act. The amendments: define degradation to exclude nonsignificant changes in water quality; define high quality waters to exclude waters with impaired quality; and, require a showing that the project will result in important economic or social development.

The nondegradation rules adopted by the Board of Health have several implications for municipalities. They apply to any new or increased discharge of pollutants to surface or ground water. They do not apply to increased discharges if the increase is within the limits established under, or determined from, a permit or approval issued prior to April 29, 1993.

It is possible, but unlikely, that a new municipal discharge will be nonsignificant in terms of degradation. The determination of significance must be made by using the definitions in the rules. If the discharge is significant, it can only be authorized, or granted a waiver, if it is justified based on social or economic importance, and all economically, environmentally, and technologically feasible water quality protection practices are applied.

Right:
Hannah Chandler, Libby, with her "1st Place" poster poses with Governor Racicot.

Libby Girl Wins Water Education Poster Contest

Hannah Chandler, a sixth grade student from Libby was the first place winner in the poster contest sponsored by the International Office of Water Education in coordination with the Water Quality Bureau. The second place winner was Anna McHugh of Helena. The 1994 poster contest winners received their awards from Governor Racicot on Monday, May 2, 1994. The award presentation kicked off National Drinking Water Week. The theme for the 1994 contest was "Groundwater - a Natural Wonder." The Water Education Calendar is used in K-6 grade classrooms throughout the U.S. and promotes water education through listed activities and facts.

Left:
"2nd Place" winner Anna McHugh, Helena, and Governor Racicot.

DEADLY TRENCHES !!!

by Bill Bahr, WQD

It seems that no matter how much training is provided throughout this state and the nation on trench safety and work-site safety, no matter how many laws are written, no matter how many safety inspectors visit work sites, no matter how much effort is put into preventing accidents and designing safe working systems, no matter how many people have died before in similar accidents --- another person believes they are invulnerable to hazardous conditions and gets killed by those very hazards. I cannot get used to the shock of someone dying in a senseless, needless, preventable accident. It always surprises me. I should be used to it by now. I'm not. I did not know the young man who was crushed in the recent trench cave-in here in Helena. I didn't inspect the work site. The newspaper article in the Helena Independent Record doesn't say if the most recent trenching accident victim was working alone, but it doesn't seem likely.

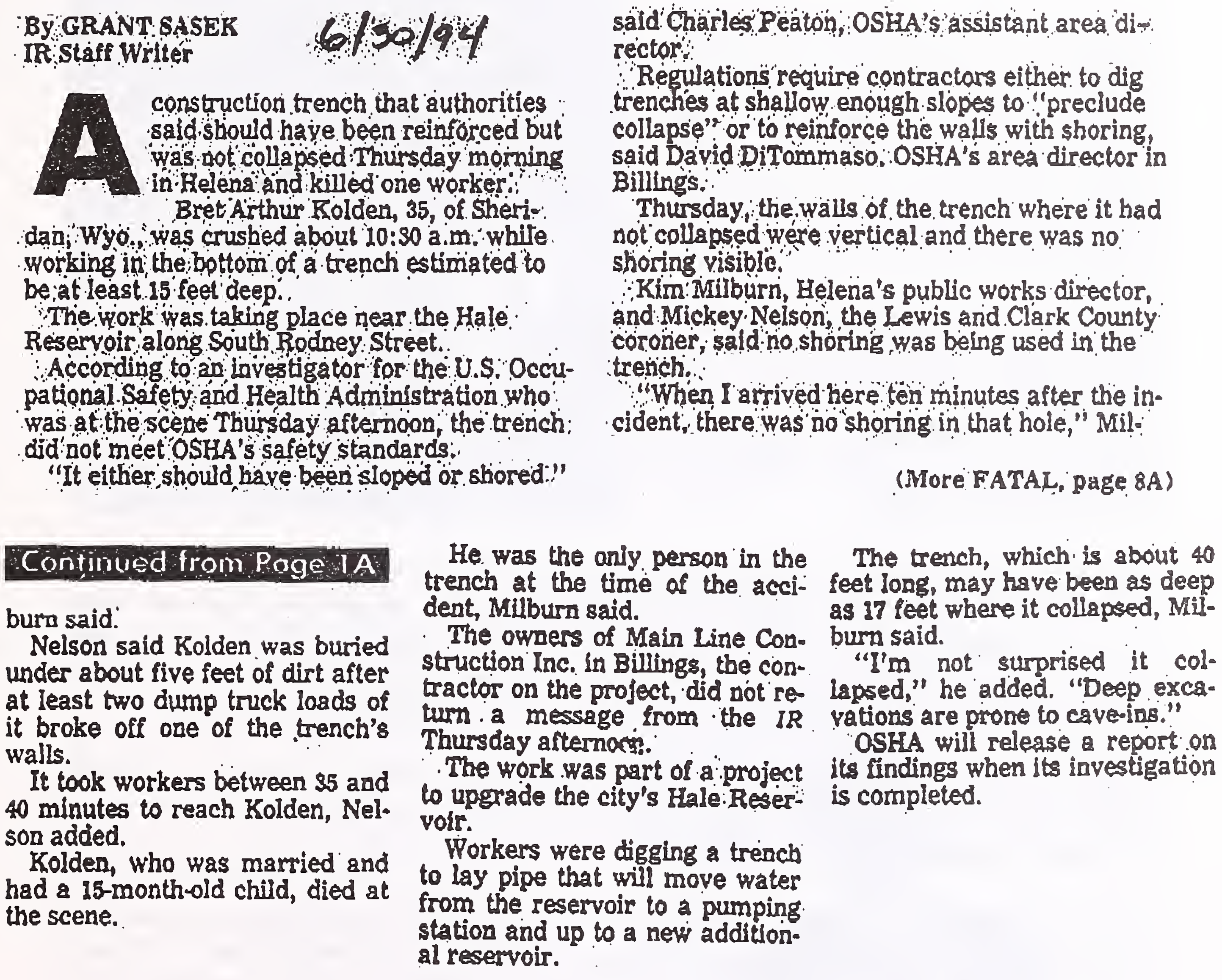
Questions run through my head, like: Why wasn't there a team approach to stop a worker from being in a trench in violation of several OSHA standards? How does a construction company bypass common sense, OSHA rules, safety inspections, and any number of other methods of trench work safety and accident prevention measures, to allow a worker into a situation, that, in an accident, almost always results in death?

I have struggled with these situations over the many years I have participated in safety programs at treatment plants and conducted safety training for workers throughout this state. I note in the story that the victim was married and had a young child. This tragedy extends far beyond this individual worker. His family and all who knew him must be suffering very much. I ache for them. What was the value of this young man to this world? Just one life, or major impacts on many, many lives? The statistics show the number, one, in the fatality column. I wish I could have done something more that would have prevented this fatality.

I plead to all who read this article, "**Please, please, please follow safety regulations.**" They may take more time, they may take extra effort...but if it saves your life or that of a friend or co-worker, it will have been well worth the time and effort.

Following is the newspaper account of what transpired on June 30, 1994 in Helena.

ANOTHER WORKER KILLED



By GRANT SASEK
IR Staff Writer

6/30/94

A construction trench that authorities said should have been reinforced but was not collapsed Thursday morning in Helena and killed one worker.

Bret Arthur Kolden, 35, of Sheridan, Wyo., was crushed about 10:30 a.m. while working in the bottom of a trench estimated to be at least 15 feet deep.

The work was taking place near the Hale Reservoir along South Rodney Street.

According to an investigator for the U.S. Occupational Safety and Health Administration who was at the scene Thursday afternoon, the trench did not meet OSHA's safety standards.

"It either should have been sloped or shored," said Charles Peaton, OSHA's assistant area director.

Regulations require contractors either to dig trenches at shallow enough slopes to "preclude collapse" or to reinforce the walls with shoring, said David DiTommaso, OSHA's area director in Billings.

Thursday, the walls of the trench where it had not collapsed were vertical and there was no shoring visible.

Kim Milburn, Helena's public works director, and Mickey Nelson, the Lewis and Clark County coroner, said no shoring was being used in the trench.

"When I arrived here ten minutes after the incident, there was no shoring in that hole," Mil-

(More FATAL, page 8A)

Continued from Page 1A

burn said.

Nelson said Kolden was buried under about five feet of dirt after at least two dump truck loads of it broke off one of the trench's walls.

It took workers between 35 and 40 minutes to reach Kolden, Nelson added.

Kolden, who was married and had a 15-month-old child, died at the scene.

He was the only person in the trench at the time of the accident, Milburn said.

The owners of Main Line Construction Inc. in Billings, the contractor on the project, did not return a message from the *IR* Thursday afternoon.

The work was part of a project to upgrade the city's Hale Reservoir.

Workers were digging a trench to lay pipe that will move water from the reservoir to a pumping station and up to a new additional reservoir.

The trench, which is about 40 feet long, may have been as deep as 17 feet where it collapsed, Milburn said.

"I'm not surprised it collapsed," he added. "Deep excavations are prone to cave-ins."

OSHA will release a report on its findings when its investigation is completed.

"A moment of silence, please."

SCHOOL WELLHEAD PROTECTION PROJECTS WIN PRESIDENTIAL AWARDS!

by Carole Mackin, WQD

Each year the U.S. Environmental Protection Agency (EPA) evaluates environmental projects of school children and selects one from each region to receive the Presidential Environmental Youth Award. In 1993, Region 8 of the EPA chose its winner and first runner-up from the Montana Wellhead Protection School Demonstration Projects completed by DeSmet Elementary District #20 in Missoula (first place) and Bonner Elementary District #14 in Bonner (second place). This was the first time a Montana project has taken first place.

Sarina Wilson, eighth grader, and Bruce Fryar, science teacher and project sponsor, received an all expense paid trip to Washington, D.C. to accept the first place award for DeSmet School. This was Sarina's first trip outside Montana and it was memorable. Sarina toured Washington, meet with Montana Senators Max Baucus and Conrad Burns, gave a presentation to the National Press Club, and received the school's award from Vice President Al Gore.

Back home in Missoula, a ceremony was held to award individual plaques signed by President Bill Clinton to all the students in the project. In addition, DeSmet School received a monetary award of $2,500. DeSmet used the money to continue the project during a summer school session in June, 1994. The award-winning students assisted the instructors in teaching the class and preparing a video to document the session.

Region 8 of the EPA held an award ceremony in Bonner for the second place winners. Each student was awarded a certificate signed by President Bill Clinton. Bonner School received a monetary award of $300.

The projects originated in 1992 when the Montana Water Quality Bureau selected these schools to design a wellhead protection area around their school well to assure that their water supply will remain uncontaminated. The projects used a multidisciplinary approach to teach the students about groundwater protection and put their knowledge to practical use in establishing the wellhead protection area. When the projects were complete, the sponsors nominated their students to Region 8 of the EPA.

Videos of each project were produced to document the class activities throughout the year. Each of the videos has aired twice on the Missoula Public Access Television Station. The videos are available to other schools through the Office of Public Instruction Media Library.

DEPARTURES …

Dick Nisbet, Public Works Director for the City of Helena for many years, and long-time member of the Montana Section of the American Water Works Association (MSAWWA), was honored during this year's Joint Annual Conference of the MSAWWA and the Montana Water Environment Association (MWEA) for his efforts on behalf of quality drinking water for the citizens of Montana. Dick (*on the left*) is pictured here receiving the award from Gerald Lukasik, Mountain Water Company, of Missoula, National Director of MSAWWA. Thanks, Dick, for all your work!!

* * *

By the time you read this, **Dean Chaussee**, Montana EPA, will be relaxing somewhere with his feet up, and enjoying the fruits of his long career of protecting the water quality in Montana, the nation and the rest of the world. Dean's accomplishments are many and varied, and we will all miss his guidance and friendship as we continue to promote public health and high-quality drinking water. Dean served 30 plus years and well-deserves our best wishes on his retirement. Thanks, Dean, we'll be seeing you around!!

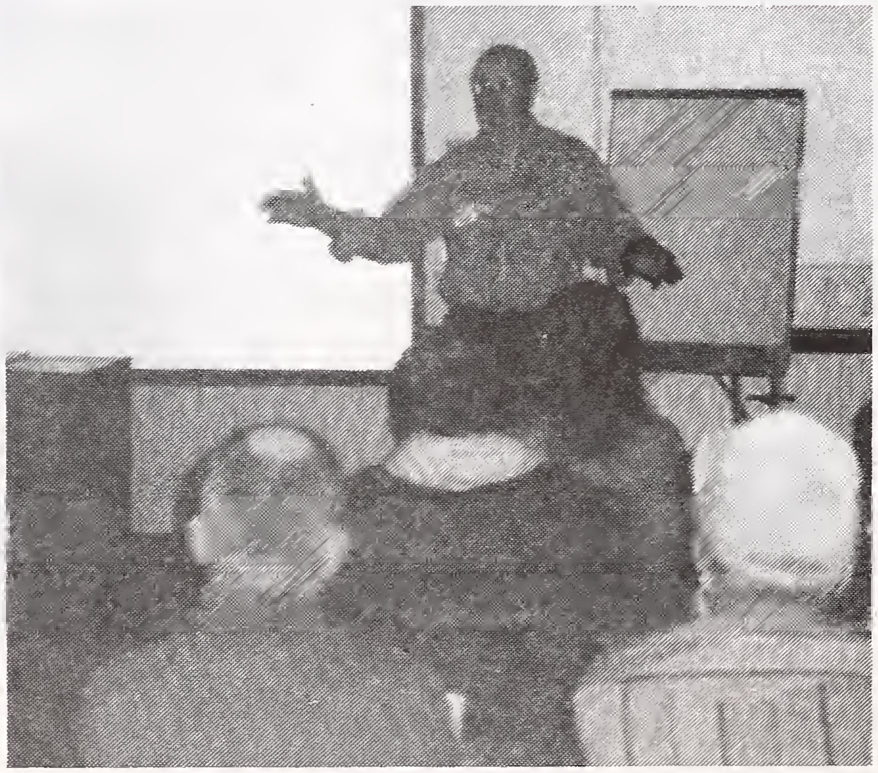
SPRING WATER SCHOOL

Scenes from the 2nd Annual Spring Water School
Lewistown - March 16-18, 1994

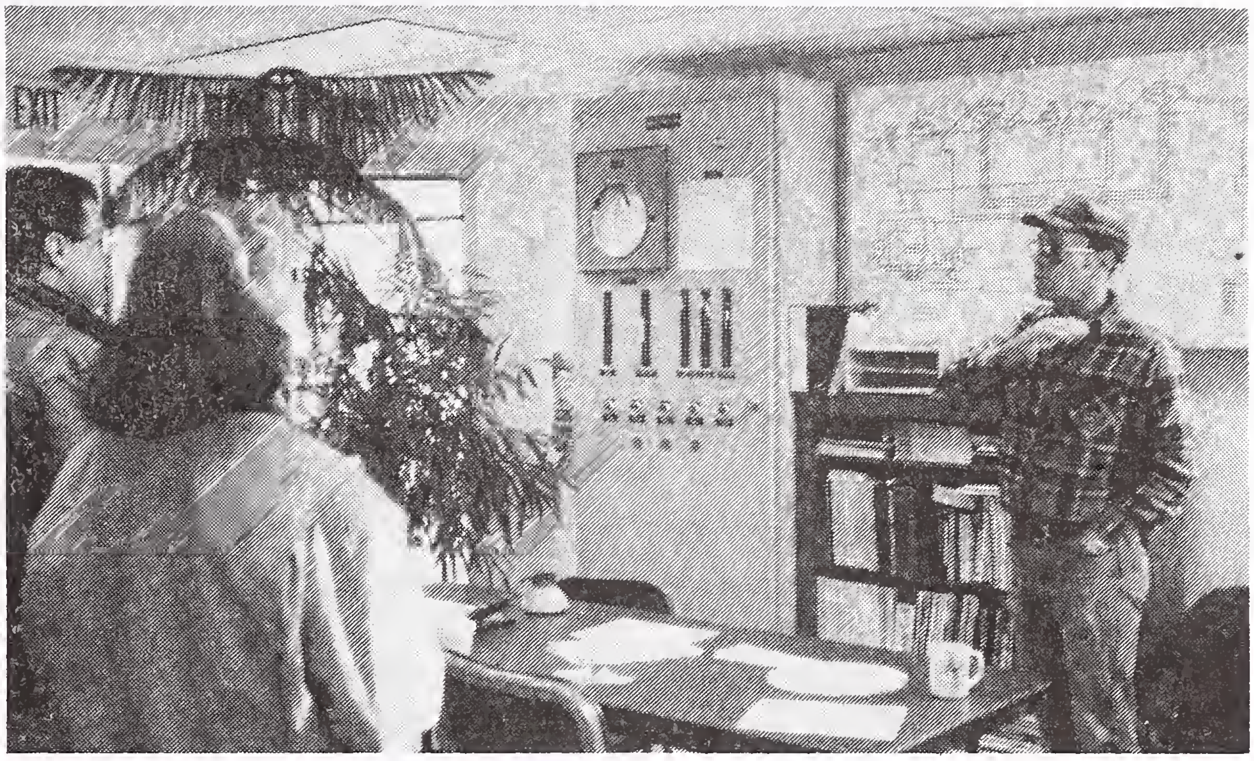
Over 40 people attended the 2nd Annual Small System School for Operators. Sixteen people showed up to take the certification exam to become certified operators in Montana.

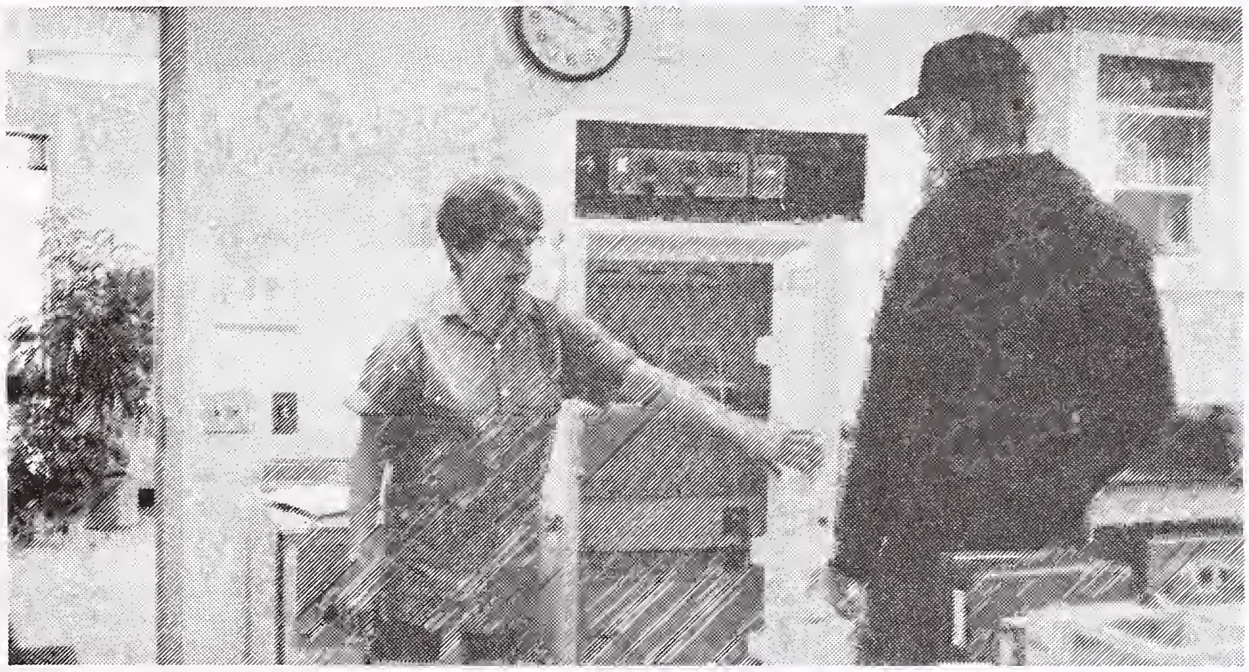
◂◂ Do you recognize any of these folks attending training at the 2nd Annual Spring Water School for Small Systems?

Dan Fraser opens the ▸▸ school with a discussion of how environmental and health protection laws developed.



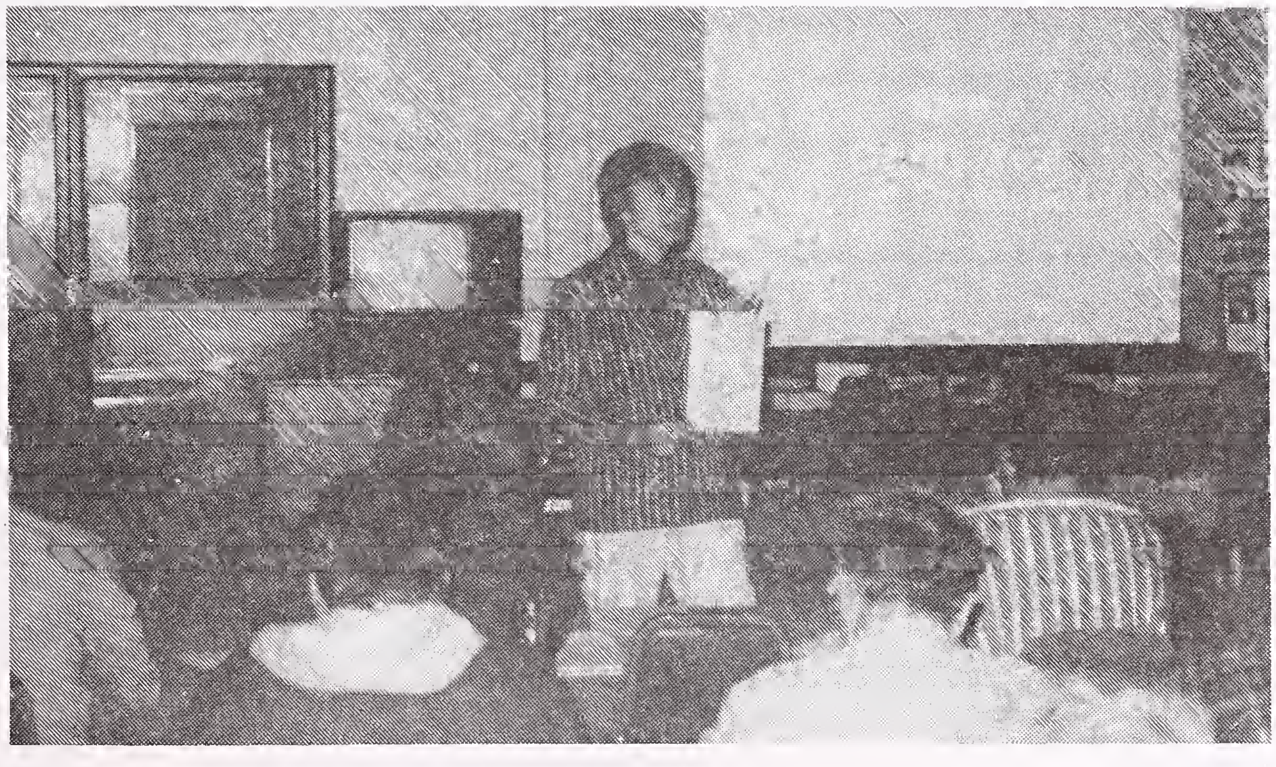
Wendell Wade ▸▸ describes the Lewistown WWT process and computerized maintenance and data collection system (see Certification Officer, Shirley Quick, paying close attention!).





◂◂ Lewistown's laboratory testing program is illustrated during a tour of the WWT plant by Cathy Holzworth.

Carole Mackin, ▸▸ of the WQD, helps operators understand how to "Protect Your Wellhead."



AMERICAN WATER WORKS ASSOCIATION

INDIVIDUAL MEMBERSHIP APPLICATION

DBP 93

AWWA USE ONLY

Complete this form and mail to:
AWWA / 6666 W. Quincy Avenue / Denver, CO 80235
(303) 794-7711 • FAX (303) 794-7310

PLEASE PRINT OR TYPE

Last Name ______ First Name (and middle initial) ______

Mailing Address ______

______

City ______ State/Province ______ ZIP/Postal Code ______

Area Code ______ – Telephone ______ – ______ Area Code ______ – FAX ______ – ______

Title ______

Employer's Name (If not already in mailing address) ______

Applicant's Signature ______ Date ______

Signature of AWWA Member Endorsing Application (Optional) ______ Endorsing Member Number ______

ANNUAL DUES:

$72/Active Grade Code 02	**$33/Operations (formerly Affiliate)** Grade Code 06 (For operator level personnel or employees of small utilities. Will not receive Journal AWWA.)	**$24/Student** Grade Code 14

ANNUAL DUES $ ______

New England Assessment* ______

Multi-Section Option (other than own) ______

TOTAL DUE $ ______

*Applicants with an address in the New England Water Works Association Section of AWWA (ME, NH, RI, VT, MA) must include $32.00 for Active Membership, or $15.00 for Operations Membership with their annual dues.

Make check payable to AWWA (Canadian funds add 15%).

☐ MasterCard ☐ VISA ☐ Diner's Club

☐ American Express ☐ Send Invoice

Card Number ______

Expiration Date ______

PREPAYMENT OF ONE YEAR'S DUES REQUIRED
No action can be taken on this application until payment is received.

If you have been a member of AWWA before, indicate dates here:

______

☐ Please send an AWWA membership certificate.

Address shown above is: (check one) ☐ Home ☐ Office

MULTI-SECTION MEMBERSHIP

You may also select a year's membership in **other** AWWA sections by circling your choices and including $14 for each section circled. Enter this total on the line reading "multi-section option".

CIRCLE SECTION CHOICES

AKA	ALASKA	IWA	IOWA	PAC	PACIFIC NORTHWEST (OR, WA & PART OF ID)
ALA	ALABAMA-MISSISSIPPI	KAN	KANSAS	PEN	PENNSYLVANIA
ARI	ARIZONA	KNT	KENTUCKY-TENNESSEE	PRT	PUERTO RICO
ATC	ATLANTIC-CANADA (NB, NF, NS, PEI)	MEX	MEXICO	QUE	QUEBEC
BRC	BRITISH COLUMBIA (BC, YT)	MIC	MICHIGAN	RMT	ROCKY MOUNTAIN (CO, NM, WY)
CAL	CALIFORNIA-NEVADA	MIN	MINNESOTA	SCR	SOUTH CAROLINA
CHS	CHESAPEAKE (DE, DC, MD)	MOU	MISSOURI	SDK	SOUTH DAKOTA
CON	CONNECTICUT	MTN	MONTANA	SOW	SOUTHWEST (AR, LA, OK)
FLA	FLORIDA	NDK	NORTH DAKOTA	TEX	TEXAS
GEO	GEORGIA	NEB	NEBRASKA	VIR	VIRGINIA
HWI	HAWAII (GUAM)	*NEW	NEW ENGLAND (ME, NH, RI, VT, MA)	WEC	WESTERN CANADA (AB, MB, NT, SK)
ILL	ILLINOIS	NEJ	NEW JERSEY	WEV	WEST VIRGINIA
IND	INDIANA	NEY	NEW YORK	WIS	WISCONSIN
INT	INTERMOUNTAIN (UT & PART OF ID)	NOC	NORTH CAROLINA		
		OHO	OHIO		
		ONT	ONTARIO		

*IF "NEW" ENGLAND IS A CHOICE, add $46.00. This includes their assessment and multi-section fee.

ALL APPLICANTS SHOULD COMPLETE THIS SECTION:

Circle the descriptions below that best describe you. The information is used in audits of AWWA readership. Circle only ONE in each group.

BUSINESS AND INDUSTRY

A. Public Water Supply Utility–Municipally Owned
B. Public Water Supply Utility–Investor Owned
C. Governmental—Federal, State, Local
D. Consultant
E. Contractor
F. Private Industrial Systems or Water Wholesaler
G. Manufacturer of Equipment & Supplies including Representatives
H. Distributors of Equipment & Supplies including Representatives
I. Educational Institutions, Faculty and Students, Libraries, and Other Related Organizations
J. Fully Retired
K. Research Labs
L. Unreported

JOB TITLE

A. Executive-Gen'l Mgr., Commissioner, Board Member, City Mgr., Mayor, President, Vice-President, Owner, Partner, Director, etc.
B. Management-Division Head, Section Head, Mgr., Chief Engineer, Comptroller, etc.
C. Engineering/non-managerial-Civil Engr., Mech. Engr. Envir. Engr., Planning Mgr., Field Engr., Systems Designer, etc.
D. Scientific/non-managerial-Chemist, Biologist, Biophysicist, Researcher, Analyst, etc.
E. Purchasing-Purchasing Agent, Procurement Specialist, Buyer, etc.
F. Operations-Foreman, Operator, Maintenance, Crewman, Service Rep., etc.
G. Marketing & Sales/non-managerial-Mkt. Analyst, Mkt. Rep., Salesman, Sales Rep., etc.
H. Other (describe) ______

______

CHECK FIELD(S) SERVED:

5 ☐ Water Supply Only
7 ☐ Wastewater Only
9 ☐ Both
3 ☐ Other

In some AWWA sections, a portion of the section allotment equal to 50 percent or more of the domestic subscription rate charged for the section periodical will be allocated toward a subscription of that periodical.

Dues allocated for each publication members receive:
Journal $28
MainStream $6
Opflow $5

10/93

Membership Application-1994

☐ Check Here If Renewing

1

Send Completed Application and Payment to:
WEF, Financial Management
601 Wythe Street • Alexandria, VA 22314-1994, USA
For more information, call 1-800-666-0206 in North America or 1-703-684-2452 outside or FAX 703-684-2492

Association Choice: (Please print or type)
Select one from the list on back of this form.

Use this application to join the Water Environment Federation and your local Member Association. Simply complete this application and return it to the address above. Along with your monthly publications, you are also entitled to group insurance, technical assistance, discounts on technical publications, conference registration and much more!

2

(11) First Name, Middle Initial
(16) Last Name
(3) (Jr., Sr., etc.)

☐ Business Address or ☐ Home Address

WEF ID#
(If renewing membership)

(30) Business Name (if applicable)
(30) Street or P.O. Box
(18) City
(2) State
(9) Zip Code
(12) Country

(10) Telephone – Home
(10) Business
(10) FAX (if applicable)

3

Please refer to facing page marked "periodicals" when completing this section.

Employer Code (2) Other (please specify)
Job Title Code (2) Other (please specify)
Environmental Focus (2) (2) (2) (2) (2) (2) Other (please specify)

4

WEF Sponsor (Optional)
BILL BAHR (20)

Sponsor's Member I.D. Number
1627804 (7)

Source Code
(2)
(For WEF Use Only)

5

Membership Categories: Choose one membership category and fill in the appropiate dues.
Note: Retired? Call the WEF Member Services Center at 1-800-666-0206 to find out about our retired membership category.

☐ Active

For individuals involved or interested in the advancement of knowledge pertaining to water quality.

Dues	$ 70.00
Dual*	$
Select ONE	**Included**
☐ WE&T or	
☐ Water Environment Research	
Highlights	**Included**
Additional Publications (See box below)	
Periodical Code	*Cost*
	$
TOTAL	$

☐ Operations Division

For individuals working in,or responsible for, the operation of one or more wastewater collection, treatment or laboratory facilities, or for facilities with a daily flow of <1 mgd or 44 L/sec.

Please indicate type of membership below:
☐ Individual ☐ Organization/Agency

Dues	$ 40.00
Dual*	$
Select One:	**Included**
☐ Operations Forum or	
☐ Water Envionment Laboratory Solutions	
Highlights	**Included**
Additional Publications (See box below)	
Periodical Code	*Cost*
	$
TOTAL	$

☐ Student**

For Individuals enrolled at least half-time in a college or university.

Dues	$ 22.00
Dual*	$
Select ONE	**Included**
☐ WE&T,	
☐ Water Environment Research or	
☐ Operations Forum	
Highlights	**Included**
Additional Publications (See box below)	
Periodical Code	*Cost*
	$
TOTAL	$

☐ Corporate

Corporations engaged in the design, construction, operation or management of water quality systems. **One person is entitled to receive Membership benefits.**

Dues	$ 180.00
Dual*	$
WE&T	**Included**
Water Environment Research	**Included**
Operations Forum	**Included**
Highlights	**Included**
Water Environment Regulation Watch	**Included**
Additional Publications (See box below)	
Periodical Code	*Cost*
	$
TOTAL	$

6

Dual Membership

*If you would like to join more than one Member Association, please incidate which association(s) you would like to join and write the Association's Dual dues (See back of form-last column) in the appropriate box above. WEF will track no more than three additional associations.

Indicate Additional Association(s) Here (No more than three)

Additional Publications

One or more of the following WEF periodicals may be ADDED to your membership package if they are not already included. Please enter the Periodical Code and Cost in the allocated space above.

	Periodical Code	Cost
Water Environment & Technology	WET	$30.00
Water Environment Research	RJ	30.00
Operations Forum	OF	25.00
Water Environment Laboratory Solutions	WELS	35.00
Water Environment Regulation Watch	WRW	35.00
The Job Bank	JB	36.00
Safety & Health Bulletin	SB	14.00

**A photocopy of current student ID is required with Application.

7

Method of Payment

☐ Check Enclosed:
Make Check Payable to WEF
☐ Charge my: ☐ VISA ☐ MC ☐ AMEX

Account Number
Expiration Date

Signature
Daytime Phone No.

Postage Requirement: Dues allocated for publications when included in membership: WE&T – $30; Water Environment Research –$30; Federation Highlights –$15; Operations Forum – $25; Water Environment Regulation Watch–$35 Water Environment Laboratory Solutions –$35

Conference Highlights

MSAWWA/MWEA Annual Conference
April 20-22, 1994 - Helena, Montana

Governor Marc Racicot addresses the opening session of the Conference.

The 1994 MSAWWA/MWEA Annual Conference in Helena, on April 20-22, 1994, was an activity-filled, educational event that everyone who attended seemed to enjoy very much.

Governor Marc Racicot opened the Conference with timely remarks about the importance of protecting Montana's valuable water resources.

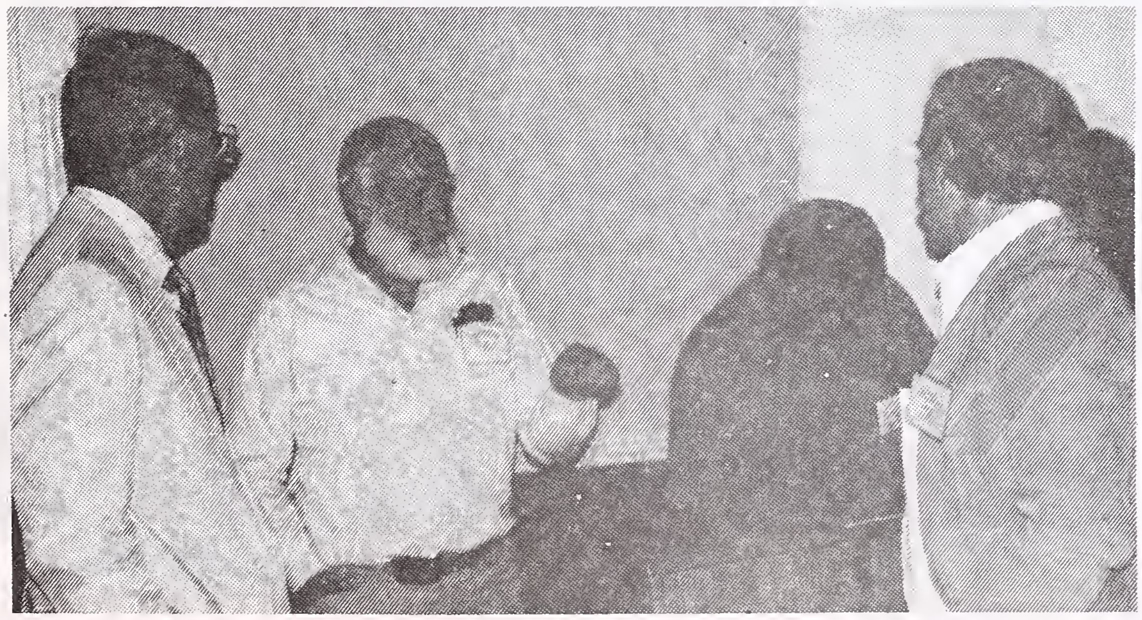
Speakers addressed issues relating to growth in Montana and the changes in the lakes, rivers, streams and aquifers throughout the state. A group of school children from Havre, winners of a local water festival contest, entertained the conference attendees during a noon luncheon (*see related article in this issue*).

Arthur Clarkson, member of both WEF and AWWA for over 50 years, was honored at the Thursday banquet. The play, "Nunsense II," provided evening entertainment and several awards were presented.

Next year's conference is scheduled for May 3, 4 and 5, 1995 in Great Falls, Montana. Make your plans now to attend!!!

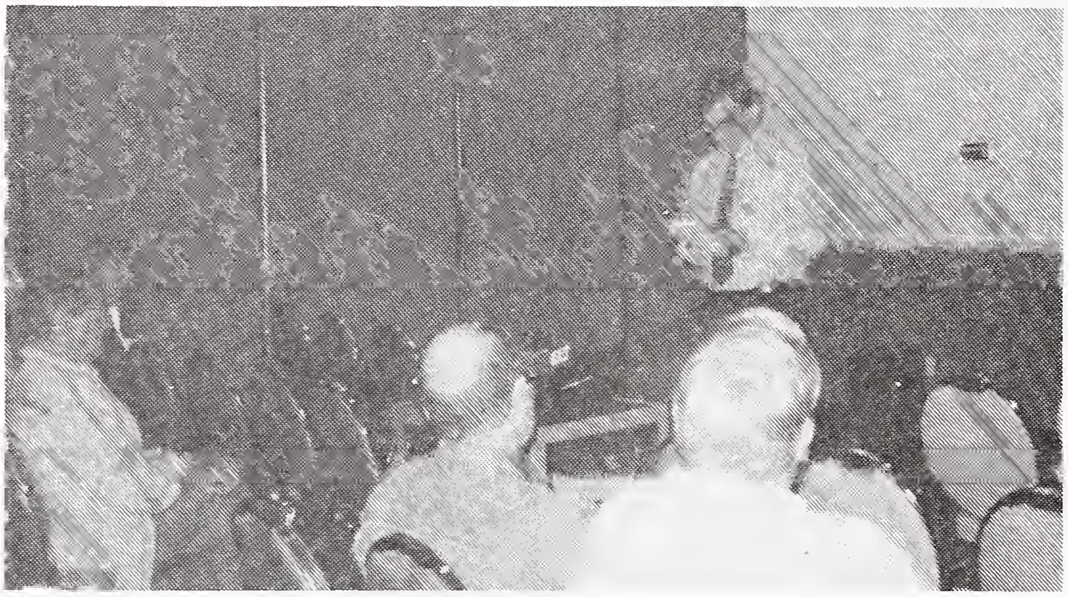
◂ *Dr. Richard Hauer, University of Montana Biological Research Center at Yellow Bay, Flathead Lake, discusses changes in the Flathead Lake Watershed.*

Former Bozeman Mayor, Tim Swanson, explains the political and community efforts to protect Bozeman city water supplies. ▸



◂ *Dr. Abe Horpestad, MDHES-WQD, makes a point about the proposed nondegradation rules for Montana businesses and communities.*

CONFERENCE HIGHLIGHTS (cont.)



Tim Hunter, Superintendent of Missoula's Wastewater Division, presented pertinent information about nutrient loading in the Clark Fork River Basin. ▸

◂ *Rick Cottingham, MDHES-WQD, takes advantage of a break in the action to visit with Jack Sampson and other company representatives in the vendor display area.*

Arthur Clarkson, retired engineer, Helena, reminisces about the way things were when he worked for the Department of Ecology and Health in years gone by. Thanks, Art. ▸

CONFERENCE HIGHLIGHTS (cont.)

◄ *"Oops, did I say that...I meant to say...," MWEA National Director, Barry Damschen, comments during the Thursday banquet.*

The City of Deer Lodge Operator, William Scott, receives the MWEA Small System Award. ►

◄ *AWWA National President, Robert Reinert, presents the prestigious Fuller Award to Lyle Meeks, Engineer, Great Falls.*

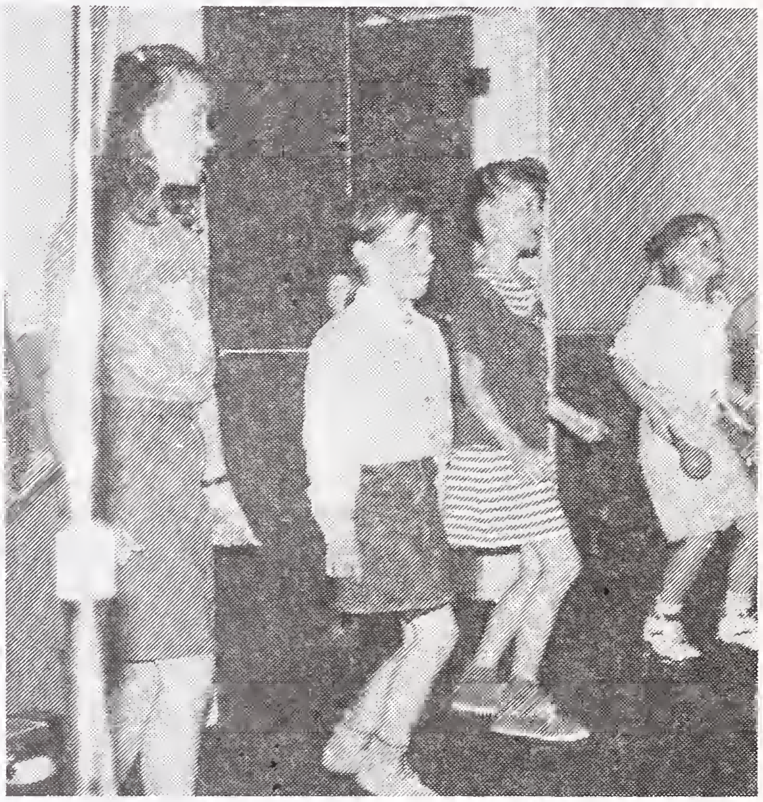
HAVRE CHILDREN'S WATER FESTIVAL

by Kristi Kline, Wastewater Superintendent
City of Havre

The Havre Children's Water Festival, funded by a Water Quality Education Mini-Grant from the Montana Watercourse, was held March 10, 1994 at the Northern Montana College Student Union Building. The focus of the celebration was to promote youth education in the importance of conserving, protecting and treating water. The festival provided a chance for the students to learn invaluable knowledge about water through hands-on experiments and presentation activities. Our goal was to develop a welcome curiosity of water education, and to instill an environmental awareness and stewardship ethic.

Attending were 350 students from eight schools and four towns. All of the classes were greeted by the Festival Mascot, "Rainey Raindrop," as they arrived for their two-hour stay at the Festival.

PHOTOS: Third Grade Students from Highland Park School, Havre, perform at the MWEA/MAWWA Annual Conference in April 1994.



Eleven local water resource experts presented an enthusiastic program that included local water issues covering agriculture and water, water movement through soil, hands-on experiments with water, wetlands and their wildlife, fish displays, aquatic biology and a historical skit on water. We used a salinity research project conducted by the Salinity Control Association at the Hill County Fairgrounds as our main topic and used area resource people so that the students could relate what they were learning to areas that they were familiar with. We had 20 valuable and energetic volunteers who assisted by guiding student groups to presentations, staffing displays, providing assistance to organizers and presenters, and filling in any gaps or tasks that needed to be done. At the end of the students' stay, all participants placed a blue thumbprint and signed their individual hand print on a banner entitled "We Give Drinking Water a Hand," to represent

HAVRE CHILDREN'S WATER FESTIVAL continued...

their commitment to clean water. These banners were displayed in Havre during National Drinking Water Week which was celebrated May 1-7, 1994. Each teacher received a water-unit resource packet full of information to extend water education in their classroom. The students received three different handouts about water conservation and the protection of water.

A challenge was extended to all classes attending the festival to continue their investigation about water after the festival was over. Each class was asked to submit an entry representing their extended project. Projects could be anything that used water as a theme, such as: writing or reading stories and poems, dramatic activities, performing experiments, making water commercials, anything to show some aspect of the students' knowledge regarding water. The winning class was awarded a trip to the Capitol City of Helena to present their activity at the annual Montana Water Environment Association/Montana American Water Works Association Conference. These two organizations are comprised of water resource people from across the state, and are involved in youth and public water education in Montana. The winning entry was Mrs. Rosie Ellendson's Third Grade Class from Highland Park School. They presented a lively original project which consisted of dance interpretation, a jungle rain song, original stories, skits, and "Did you know?" water facts. The students were able to tour the state capitol afterwards and also got to meet with Governor Marc Racicot (the Governor had given the opening speech at the MWEA/MAWWA conference earlier in the day). The students performed a short version of their program for the Governor and later had a group photo taken. The Governor made the students feel very welcome, as not only did they get to use the secret door into his office, quite a few were on first name basis with him and left inviting the Governor to come to their school the next time he was in Havre. Mrs. Ellendson was very appreciative of the wonderful opportunity for her students and we were very proud of their performance.

NEW EMPLOYEE

at the Water Quality Division

The Municipal Wastewater Assistance Program of the Water Quality Division has hired a new engineer to develop and implement a municipal wastewater pollution prevention program. **Pat Burke** came to the program in April of this year, bringing an extensive background in the planning, design and construction of wastewater treatment facilities. Mr. Burke is a licensed engineer who worked for over 14 years with the consulting firm of Montgomery Watson (formerly J.M. Montgomery). Pat has participated in a number of biosolids management projects, including an assessment of the solids handling at the Seattle Metro West Point Wastewater Treatment Plant.

The new pollution prevention program Pat will be implementing in Montana will look at ways for wastewater plants to reduce pollutant loads through source reduction, improved operations, and waste recycling or reuse. Pat will also be involved in special studies of wastewater plants and biosolids management. He can be reached at 444-2406 for questions.

Pat Burke
Municipal Wastewater Assistance Section

DHES Receives Federal Grant for Public Water Supply Wells

by Mark Smith, WQD

During the winter of 1993, several state and federal agencies combined their efforts through the Montana Drought Advisory Committee to apply for grants from the Bureau of Reclamation of the U.S. Department of Interior. The grants were made possible by the Reclamation States Emergency Drought Relief Act.

The Montana Department of Health and Environmental Sciences (DHES) applied for a grant on behalf of several community water supplies around the state that historically experience severe impacts from drought conditions. The proposal was approved and a total of $262,500 is expected to be awarded in the very near future. The funding is for the construction of additional wells in the communities of Nashua, Scobey, Browning, Opheim, Flaxville, Outlook and LaCasa Grande Estates in East Helena.

Some delays were encountered during the grant application process. After the unusually high amount of precipitation received in 1993, DHES and the other agencies were required to show that the need for drought relief projects still existed. This was accomplished by evaluating soil moisture conditions, snowpack, precipitation, and stream flow records that demonstrated the potential for drought again in 1994. The funding for these projects was also later jeopardized by the possibility of being redirected to other relief assistance activities. However, this did not materialize.

Despite a few setbacks, the grant agreements for these projects are now being finalized and local planning, design and construction activities are expected to begin soon.

$$$$$

Financial Assistance to Attend Training Sessions

by Luella Schultz, WQD

The Montana Section of the American Water Works Association (AWWA) has committed money to provide financial assistance for minorities and women to attend training sessions. The funds are limited and will be distributed on an assessed needs/first come basis. To request assistance in attending a training session, you may apply directly to Luella Schultz, Chairman of the MAWWA Minorities' and Women's Affairs Committee, or contact any of the following individuals: Marlene Doney, Chinook; Sandy Blount, Fort Peck Tribal Health; or Jan Boyle, METC Training Coordinator.

The LTAP Organization at MSU is offering to pay half the tuition for the first 10 Native American applicants attending the Annual Water and Wastewater School September 26-29, 1994 at MSU in Bozeman. To qualify, applicants must currently be employed as a water or wastewater treatment plant operator. This is a great opportunity!!! Please contact Patty Gunderson or Sharon Knight at 1-800-541-6671 if you have questions or are interested in signing up for this tuition assistance.

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61st ANNUAL WATER SCHOOL

for

Water and Wastewater Operators

September 26-29, 1994, at MSU in Bozeman, MT

Monday, September 26, 1994

JOINT SESSIONS	
8:00AM	**REGISTRATION**
9:00AM	**Welcome to Water School** Warren Jones, Dorothy Bradley, Jan Boyle and Jim Melstad
9:30AM	**Montana's Operator Certification Program** Shirley Quick - WQB Certification Officer
10:00AM	**BREAK**
10:15AM	**History of Public Health Protection** Dan Fraser - Former WQB Chief
11:00AM	**The Environment and the Legislative Process** Dorothy Bradley
LUNCH 12:00 - 1:00PM	
1:00PM	**CWA/SDWA Update - "Impacts for Montana Communities"** JoEllen D'Arcy
2:00PM	**Biofilms in Water and Wastewater** Bill Costerton
3:00PM	**BREAK**
3:15PM	**Water and Wastewater Treatment in Honduras** Jim Melstad
4:15PM	**VENDOR WELCOME TO WATER SCHOOL**
4:15PM 7:15PM	**HANDOUT SOS MATERIAL**

Tuesday, September 27, 1994

CONCURRENT MORNING SESSIONS

	Filtered Water	Small Systems	Wastewater
8:00AM	**Advanced Surface Water Treatment - Implementation** Rob Renner	**Math/Science for Operators** Warren Jones	**Implementation Training in Wastewater Treatment** Bob Hegg
10:00AM	**BREAK**		
10:15AM	**Advanced Surface Water Treatment (continued)** Rob Renner	**Math/Science for Operators (cont.)** Warren Jones	**Wastewater Treatment (continued)** Bob Hegg
LUNCH 12:00 - 1:00PM			

Tuesday, September 27, 1994

CONCURRENT AFTERNOON SESSIONS

1:00PM	Advanced Surface Water Treatment (continued) Rob Renner	Use of Computers in Plant Operations Kathy Stevens	Wastewater Treatment Process Control Bob Hegg
2:00PM			
3:00PM	BREAK		
3:15PM	Advanced Surface Water Treatment (continued) Rob Renner	Safety First Aid/CPR, Trenching and Roadway Work	Using Implementation Training to Improve Plant Operations Bob Hegg
5:00PM	SOS SESSIONS IN ALL ROOMS		

Wednesday, September 28, 1994

CONCURRENT MORNING SESSIONS

	Filtered Water	Small Systems (concurrent)		Large Wastewater
8:00AM	Instrumentation, Calibration & Troubleshooting HACH	Ground Water Under the Influence D. Jensen	O&M of Distribution & Collection Systems S. Emrick	Nondegradation Law S. Anderson
9:00AM				TMDL Process G. Ingman
10:00AM	BREAK			
10:15AM	Instrumentation, Calibration & Troubleshooting (cont.) HACH	Ground Water Under the Influence (continued) D. Jensen	Alternative Treatment Technologies D. Eaton	New Developments in Wastewater: Nutrient Removal, Wetlands, European Style T. Hunter
12:00PM	LUNCH			

CONCURRENT AFTERNOON SESSIONS

	Filtered Water	Small Systems (concurrent)		Large Wastewater
1:00PM	Media Filter Systems Water Control Corporation J. Sampson	Treatment and Movement of Ground Water Contamination G. Vandeberg	Wastewater Microbiology A. Camper	Pollution Prevention Self-Assessment Process P. Burke
2:00PM			Constructed Wetlands O. Stein	
3:00PM	BREAK			
3:15PM	Coagulation and Polymers Calgon Corporation	Well Construction J. Arrigo	Lagoon Design & Operations P. LaVigne	Bozeman WWTP Tour
4:00PM		Wellhead Protection C. Mackin	MPDES Permits & Flows Wermers	
5:00PM	SOS Sessions			

Thursday, September 29, 1994

JOINT SESSIONS

8:00AM	Safety: Plant Programs; Chemical Handling; Emergency Response; Chlorine Safety; Confined Spaces; Worker Right-To-Know; Accident Investigation B. Bahr
10:00AM	BREAK
10:15AM	Into the Watershed: The Operator's Connection Mary Ellen Wolfe and Jan Boyle
11:45AM	Water School Wrap-Up
1:00PM 5:00PM	ATTENTION! NEW FEATURE! THURSDAY EXTRA STUDY TIME (TEST) WATER AND WASTEWATER MATH STUDY SESSION Designed to help prepare for the exam on Friday Steve Cheman - Montana Rural Water Systems
6:00PM 9:00PM	Water and Wastewater Examination Study Help Sessions WQB Certification Program

WATER SCHOOL REGISTRATION FORM

September 26 - 29, 1994

NAME: ____________________
EMPLOYER: ____________________

BUSINESS ADDRESS:
Street____________________
____
City, State, Zip____________________
____
BUSINESS PHONE____________________

Is your payment enclosed? Yes ☐

($75.00 per person)

Method of payment:
☐Check (payable to MSU)
☐Credit Card
Card Number ____________________
Exp. Date ____________________

Please fill out and return with your Early Bird payment to:

Water School
Extended Studies
Montana State University
204 Culbertson
Bozeman MT 59717

(406)994-4930

WATER SCHOOL REGISTRATION

$75 Early Bird registration fee (before Friday, September 16, 1994); $90 at-the-door registration fee (checks and purchase orders should be made out to Montana State University). You may register at the door (checks are appreciated).

Registration begins at 8:00 a.m. Monday, September 26 in the Strand Union Building (SUB), Ballroom C.

Upon arrival, park in 'S' or 'B' campus lots only. $1/day paid parking, directly south of Strand Union, also available. Please call if you need a map of Montana State University Campus.

Rooms have been set aside for the Water School at:
-The Holiday Inn
-Best Western Grantree
-Comfort Inn

Please identify yourself as a participant of the Water School to receive the discounted rates and make your reservation before September 2, 1994. An additional list of motels are included.

$$ REGISTER NOW AND SAVE MONEY $$

MONTANA SECTION AMERICAN WATER WORKS ASSOCIATION EDUCATION COMMITTEE NEWS

SEPTEMBER 9, 1994 TELECONFERENCE ADDRESSES TREATMENT OPTIMIZATION

A second AWWA teleconference on preventing waterborne disease will be held Friday, September 9, 1994 at two downlink sites in Montana. One will be in Great Falls, the other in Billings. The production, " How to Optimize Treatment," is a follow up to the April 8 Teleconference, "Is Your System at Risk?".

The teleconference will open with information on how to assess and optimize current plant performance. Examples of how to improve plant capabilities through upgrades and modifications will be explained. Emphasis will be on practical solutions and basic concepts, interrelationships, costs and regulations.

Presenters include Kim Fox and Rob Renner. Kim is a specialist on waterborne disease for the US Environmental Protection Agency. Rob is well known nationally and to Montana operators as a practical expert and trainer on facility operations.

Subjects will include the Milwaukee cryptosporidiosis outbreak, performance barriers and optimizing treatment processes. This should be an excellent and timely presentation for Montana's surface water treatment plant operators, managers and consulting engineers.

Schedule of Events 0.5 CEC's

8:15 am	Registration
8:45 am	Introductions
9:00 am	Telecast Begins
2:00 pm	Telecast Ends and Local Discussion Begins
2:30 pm	Wrap - Up and Adjourn

Registration

- Must be in advance
- $50.00 AWWA Members / $60.00 non-members
- Registration includes participants' manual, lunch and beverages.

Downlink Sites

1. MSU College of Technology at **Great Falls** (formerly Great Falls Vo-Tech.)
2. Saint Vincent's Hospital, **Billings**

Registration forms will be coming in July to Class I and 2 Water Treatment Operators and all Montana Section AWWA members. If you are interested in this teleconference but aren't on these lists or don't receive an announcement by August 1, please call MSAWWA Executive Secretary, Don Allen and Associates, in Helena at 443-7531.

Other AWWA Education Committee Activities in the next 6 months include possible sponsorship of a teleconference in December, and co-sponsorship of a "Desktop Studies for Corrosion Control" seminar with the Water Quality Bureau in August. We'll also have a lot of input into the 1995 AWWA/WEF Joint Conference in Great Falls next spring. Last year we provided Excavation Safety, two Teleconferences, and the Preconference Seminar on Confined Space Safety, Excavation Safety and the ASARCO Treatment Plant Tour.

WE NEED YOUR IDEAS !!

The MSAWWA Education Committee is always looking for subjects and seminars to bring to Montana water professionals. We have access to experts on safety, operations, treatment and administrative subjects, but we need help identifying areas of specific interest and value to you. If you have special training needs or ideas, please drop a line or give a call to:

Donna Jensen
MSAWWA Education Committee
197 Saddle Mountain Drive
Clancy, MT 59634
443-3179

* *AWARDS* *

Lyle J. Meeks Honored as Montana Section AWWA Fuller Award Recipient

The George Warren Fuller Award recipient for 1994 was **Lyle Meeks** of Great Falls. The George Warren Fuller Award is presented annually to a Montana Section American Water Works Association member for distinguished service in the water supply field and significant contributions to the water industry as a whole.

Lyle is a consulting engineer with Neil Consultants, Inc., and has additional experience as Utilities Manager for the City of Great Falls. As a consultant, his projects have included engineering design, survey and construction supervision, facilities planning and engineering evaluation. Although his projects have involved systems of all sizes, Lyle has been particularly helpful to small systems facing seemingly insurmountable infrastructure needs. He has been an active and valued participant in Montana Section AWWA activities, MRWS and METC training events, and served as MSAWWA Section Chair. Lyle is a Montana native and is an enrolled member of the Blackfeet Tribe.

Through this award, the Montana Section AWWA salutes you, Lyle Meeks. Thank you for your dedication to serving Montana's water industry!

Leadership in the Water Professions Awarded to Vivian Drake

At the annual conference of the Montana Section of the American Water Works Association, **Vivian Drake** received the first annual award for "Leadership in the Water Professions."

The award was sponsored by the Minorities' and Women's Affairs Committee of the MSAWWA and was awarded in recognition of outstanding achievement in the water professions. Nominees ranged from operators of water and wastewater plants to hydrogeologists, such as Vivian.

Vivian is employed by the Lewis and Clark City-County Health Department. She has a B.S. degree in civil engineering and a M.S. degree in hydrogeological engineering. She received the award in recognition of her contributions to maintaining and protecting water quality in the state. Vivian Drake's diligent efforts and dedication resulted in the establishment of the Helena Valley Water Quality District, Montana's first water quality district. She is also active in educating the state's youth, politicians and citizens on water quality issues and water resource protection programs. Thank you and congratulations, Vivian!

DEPARTMENT OF
HEALTH AND ENVIRONMENTAL SCIENCES
WATER QUALITY BUREAU

ROOM A-201
1400 BROADWAY

STATE OF MONTANA

PHONE: (406) 444-4549
FAX: (406) 444-1374

PO BOX 200901
HELENA, MONTANA 59620-0901

EXAMINATION NOTICE

FRIDAY -- SEPTEMBER 30, 1994 -- 8:30 A.M. TO 12:30 P.M.

Examinations have been scheduled on the above date for certification as a **Water Distribution Systems Operator, Water Plant Operator, and Wastewater Plant Operator** at the following location:

STRAND STUDENT UNION
MONTANA STATE UNIVERSITY
BOZEMAN

The examinations will be given at the conclusion of the annual Water School jointly sponsored by the Water Quality Bureau, Montana Environmental Training Center, and Montana State University. The Water School will be held on the MSU campus September 26-29. Attendance at the school is not mandatory, but is recommended. Pre-registration is requested for Water School. Fees for the **school** are **payable to MSU** with pre-registration.

By September 15, everyone taking these examinations must have:

- Completed and returned an application for certification as a water/wastewater operator.
- Paid application fees for fiscal year 95 which ends 6/30/95.
- Submitted examination registration slips and fees of $5 per examination. (Combination examinations 2A3B, 3A4B, 4AB and 5AB require $5 examination fee only.)

APPLICATION FEES ARE: $30 for either or both water distribution or water treatment type and classification; and $30 for any wastewater type and classification.

To register for this exam, detach and mail the registration slip to the following Helena address. To ask for additional information, call Shirley Quick at the Helena certification office at 444-2691 or write:

Water/Wastewater Operator Certification
Water Quality Bureau - P.O. Box 200901 - Helena 59620-0901

PLEASE RETAIN THE UPPER PORTION OF THIS NOTICE

- -

EXAMINATION REGISTRATION SLIP

(Mark which exam you will be taking, detach and return with the $5 exam fee by June 10, 1994)

Type	Class	1	2	3	4	5
Water Distribution	A	____	____	____	____	____
Water Plant	B	____	____	____	____	____
Wastewater Plant	C	____	____	____	____	

NAME: ______________________________ SYSTEM: ______________________

ADDRESS: ____

"AN EQUAL OPPORTUNITY EMPLOYER"

WATER AND WASTEWATER OPERATOR CERTIFICATION NEWS

by Shirley Quick, Certification Officer, WQB

A Well Trained Certified Operator is a Good Way to Help Prevent Pollution

Since the theme of this Clearwater is Pollution Prevention, it is a good time for all of us to review the Montana law that states the purpose of operator certification:

Montana Code Annotated (MCA) 37-42-101 states: "It is hereby found and declared that the health and welfare of Montana citizens are jeopardized by persons not properly qualified to operate the water supply systems and that Montana's waters are endangered by persons not properly qualified to operate the wastewater treatment plants. It is declared the public policy of this state to control by **certifying those persons working in these occupations in order to protect the public health and safety.**"

"I've Got That #@!¿ Answering Machine Again!"

RING RING RING RING click "Hello, you have reached the Water and Wastewater Certification Office. Shirley Quick is probably on the phone now, so please leave your name, certification number, and phone number after the beep. To speak to a receptionist, please press 0 on a push button phone."

Sound familiar? If it seems like this happens to you more than you wish, I am sorry. Unfortunately, **I AM** the certification office and when I am on the phone helping one of my 1,452 certified operators, there is no one else who can help you. That is why it is so important for you to leave me a message so I can call you back as soon as I can. If I am in the office that day, it will be the same day, otherwise it will be the day I return.

I appreciate your patience in talking to my machine in the past, and since I will probably continue to be the certification office, I appreciate your patience in the future as well. [Please never hesitate to call the certification office for information or assistance: 444-2691☺]

What's New on the CEC Front

Congratulations to those certified operators who met their Continuing Education Credit requirements for the last two-year period (ended June 30, 1994). Before we get too far into the next period (mark your calendars - the next two year period ends June 30, **1996**), let's make sure we are all informed of the CEC "rules". Some may sound familiar, some are new, but all of them are important for an informed operator to know.

- You MUST have the courses you are taking for CECs approved BEFORE you take the class. We have been very lenient in the past in allowing courses that were not pre-approved to be used for CECs: that will change in this two-year period. If you are taking courses that do not show up on the METC training calendar, ask the training provider to submit an Application for Approval of Training for Continuing Education Credit form (available from this office) before you agree to take their course. This will guarantee that the time and money you spend in their course will apply to your CEC requirements.

- This brings up another good point: there are a lot of courses that would apply towards your CEC requirements that are not listed in the METC calendar, or presented by the WQB, MRWS or MAP. If you are looking for courses in your area, call this office for information on approved courses.

What's New on the CEC Front (cont)

- First Aid, Safety, and Hazardous Materials training that is not directly applicable to water or wastewater plant operation can be approved for training but will only earn one-half the amount of CECs. For example, if the class has 10 hours of training, it will only be worth 5 hours of training or .5 CECs. Also remember that a CPR class will only be good for credit the first time you take it; the renewal courses taken each year are not.

- CECs are not awarded for registration, breaks, lunches, award banquets, sales pitches, or any time that is spent on anything but the approved training subject. This has caused courses to be approved for "odd" fractions of time (i.e., .375, .625, etc.). This has warranted my giving away the odd .05, .025, etc., that was needed for some operators to earn the full 2.0, 1.0 or .4 CEC.

We have put our heads together and come up with the following solution: We are asking the training providers to plan their agendas so that at least MOST of the training courses you take will be worth .4 for a half day or evening course and .7 for a full day (that is the total after deducting for breaks, etc.). A few of your training providers have already started doing this (thank you METC and MRWS!). With a half day or evening course worth .4, Class 5 operators can get their full CEC requirements met in one course. With a full day worth .7, Class 1 operators will only need 3 courses to meet their requirements.

- We encourage fully certified operators to take more courses and earn more CECs than required and operators-in-training to take courses even though they do not have CEC requirements. However, any excess CECs will not be carried over to the next two year period.

- We will be sending out the CEC status report in December or January of every year to help you keep track of the courses you have taken. Please keep your own records of the courses you attend to double check against this report when it arrives. [Thanks to all of you for the positive response that we received about this report ☺]

- The last two year period we were fairly flexible on giving CECs to operators for taking courses that were not approved for their type of certificate classification. Although we will continue to be open minded, we will now be checking this more closely. This is another good reason to start planning now for the courses you want to take in the next two year period in your area.

- Remember that correspondence courses are another good option for earning CECs. Refer to the list of correspondence courses in the METC calendar or call the certification office for more information. Note that you must fully complete and send the certification office proof from the course provider that you completed it before receiving CECs.

As always, if you have any questions about whether a course you would like to take has been approved, how many credits a course is worth, or how many CECs you still need, please call me at the certification office, 444-2691.

PASSING EXAMINATIONS FOR FULL CERTIFICATION OR OPERATOR-IN-TRAINING (OT) 3/19/94

Class 1:
Gerald Barta, Billings 1Bot
David Biggar, Havre 1Cot
Lorie Bond, Havre 1Bot
Ken Booth, Helena 1Bot
Tom Burke, Butte 1Aot 1Bot
Gregory Butts, Hardin 1Bot
Vincent Chappell, Chinook 1Bot
Donald Coffman, Havre 1Aot 1Bot
James Dennehy, Butte 1Bot
Steven Fourtner, Forsyth 1Bot
Carol Genther, Havre 1Bot
Douglas Hahn, Havre 1Bot
Gary Holcomb, Great Falls 1Bot
Douglas Holzhausen, Havre 1Bot
Melvyn Kershaw, Helena 1A
Scott Managhan, Havre 1Cot
Michael McCann, Havre 1Cot
Linda McCullam, Havre 1Bot
Ryan McGee, Havre 1Cot
Eric Miller, Havre 1Cot
Richard Miller, Glasgow 1B
Norman Proctor, Havre 1Cot
Steven Ringstad, Havre 1Cot
Wayne Robbins, Great Falls 1Bot
Dustin White, Havre 1Bot 1Cot
Chad Williams, Havre 1Cot
Ageena Wyatt, Stevensville 1Bot 1Cot
Donald Zinn, Havre 1Bot

Class 2:
Eddy Awberry, Lewistown 2A3Bot
Dan Ellsworth, White Sulphur Springs 2Bot
William Holzer, Hamilton 2A3Bot
Dewey Pearson, Brady 2B
James Petranek, Lewistown 2A3Bot
Mark Roach, Billings 2Cot
George Waldner, Seville Colony 2Bot
Anthony Sweeney, Lewistown 2A3Bot

Class 3:
Orval Boyer, Bear Creek 3A4B
Michael Buechler, Fromberg 3Cot
Arnold Judd, Great Falls 3A4Bot
Charlie Lei, Ashland 3A4B
Ronald Levandowski, Great Falls 3Cot
Douglas Martin, Dutton 3Cot
Eric Mayer, Pablo 3A4Bot
Craig Menzel W Yellowstone 3A4B 3Cot
Michael Nuttall, Pinesdale 3Aot
Calvin Simard, Glendive 3A4Bot
Clay Sloan, Kalispell 3A4Bot

Class 4:
Gerald Barta, Billings 4A
Monte Belgarde, Warm Springs 4C
Neal Bocksnick, Charlo 4ABot
Keith Brighton, Hardin 4AB
Chuck Carbert, L & C Caverns 4AB
Patrick Connor, Lavina 4Cot
Mildred Fleming, Trout Creek 4ABot
Steve Habener, Lavina 4Cot
William Harrell, Great Falls 4AB
Daniel Herold, Missoula 4ABot
Tawni Herold, Missoula 4ABot
Willis Hough, Glacier 4ABot
Robert Howard, Martin City 4ABot
William Isbell, Kalispell 4Aot
Grady Jenkins, Whitefish 4AB
Rodney Larsen, St. Marie 4A
Kristy Olson, Havre 4AB
Gary Pierce, Butte 4AB 4Cot
Ryan Richter, Butte 4Aot
Calvin Simard, Glendive 4Cot
Ellis Thompson Virginia City 4AB 4Cot

Class 5:
Rick Booth, Missoula 5AB
Mary Ellen Burns, Livingston 5AB
Thomas Cullen, Whitefish 5AB
Jerry Dauenhauer, Arlee 5AB
Dan Fraser, Helena 5AB
Jerry Gillies, Kalispell 5AB
Craig Henke, Chester 5AB
Susan Heres, Livingston 5AB
William Hutson, Hamilton 5AB
Don Jager, Missoula 5AB
Kathleen Jager, Missoula 5AB
Robert Kruger, Miles City 5AB
Lester McKean, Troy 5AB
Gary Morton, Bigfork 5AB
Henry Niemi, Helena 5AB
Elizabeth Samsel, Missoula 5AB
Mike Sennett, Helena 5AB
Tim Shaver, Troy 5AB
Donald Timm, Kalispell 5AB

CLASS 1B OPERATORS:

PICTURE YOURSELF HERE!

That's right, if you have a current Montana Class 1B water treatment plant operators certificate, you could be an operator on the Island of Maui!

They may have several openings for water treatment plant operators in Maui, but need them with the following experience:

- ☼ *S.C.A.D.A experience*
- ☼ *Continuous particle counting interpretation*
- ☼ *Experience in a 6 to 9 mgd plant*
- ☼ *Strong process lab background*
- ☼ *Computer skills*

If the jobs aren't filled by Hawaian operators, they will be asking for applicants to start in the fall of 1994. Keep in mind that it is VERY expensive to live in Hawaii. They are looking for people who will make a committment to stay and make Maui their home. (This is going to sound even better around about February!!!)

Interested? Contact STEVE WRYE (808) 572-0716
(call from 7:30pm to 9:30pm Mountain time)

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